



- ✓ 12V Lead-acid Battery Test
- ✓ 12V/24V Cranking System Test
- ✓ 12V/24V Charging System Test

ET8664 Battery Tester

4. BATTERY TESTER OPERATION

4.1 BATTERY TEST

Select battery type

- After entering Battery Test, the tester will prompt to select battery type, i.e. Regular Flooded, AGM Flat Plate or AGM Spiral, Gel and EFB battery. Press UP/DOWN button to select battery type, then press Enter button to confirm.

Main Menu

1. Battery Test

2. Cranking Test

3. Charging Test

4. Review Data

5. System Setup

Battery Type

1. Regular Flooded

2. AGM Flat Plate

3. AGM Spiral

4. GEL

5. EFB

Battery System Standard and Rating

- The tester will test each battery according to the selected standard and rating. Use UP/DOWN button to select according to the actual system standard and rating marked on the battery. See in picture, the arrow indicates normal locations.



(Please note each battery manufacture is different and the location of the marking may change, if unsure please contact the manufacturer of the battery).

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1. SAFETY NOTE

1.1 SAFETY INFORMATION

For your own safety and the safety of others, and to prevent damage to the equipment and vehicles, read this manual thoroughly before operating your battery tester. The safety messages presented below and throughout this user's manual are reminders to the operator to exercise extreme care when using this device. Always refer to and follow safety messages and test procedures provided by vehicle manufacturer. Read, understand and follow all safety messages and instructions in this manual.

1.2 IMPORTANT SAFETY INSTRUCTIONS

WARNING

- Do not smoke, strike a match, or cause a spark near the vehicle while testing and keep all sparks, heated items and open flames away from the battery and fuel / fuel vapours as they are highly flammable.
- The device should not be used again when abnormal phenomena occur during the test. If smoke, peculiar smell or abnormal noise occurs, stop using it immediately and contact the supplier. Use under abnormal conditions may cause accidents, fires, etc.
- Prevent engine oil, gasoline, antifreeze and electrolyte from contacting this product, which may cause surface deterioration of this product.
- If the skin of the cable is damaged, it may cause a short circuit, so stop using it immediately and send it for repair.
- After the test, please remove the alligator pliers from the battery terminal, otherwise it may cause the product to malfunction or damage the battery.
- Do not use alcohol-based liquids to wipe the product, as it may crack.
- Do not allow engine oil to adhere to the metal parts of the alligator pliers, which may cause poor contact.

2. PRODUCT DESCRIPTION

2.1 PRODUCT INTRODUCTION

This battery tester adopts the world's most advanced conductance test technology, which can conveniently, quickly and accurately measure the cold cranking current capacity and battery health of the vehicles battery without damaging the battery performance.

It has the ability to quickly detect the car common faults of cranking system and charging system.

Obtain the test report by scanning the QR code.

2.2 FUNCTION DESCRIPTION

- Quickly test the health of 12V batteries, and show status with the result of "Good Battery" / "Replace" / "Good & Recharge" / "Charge & Retest" / "Bad Cell".
- Test 12V/24V cranking system and charging system of vehicles.
- Batch battery test mode is available through "Fn" button.
- Support mobile phone to scan QR code to obtain test report.
- With reverse polarity protection function, wrong connection will not damage the tester, car or battery.
- Support English, German, Spanish, French, Dutch and Italian etc.

2.3 TECHNICAL PARAMETERS

Cold Cranking Amps Measure Range

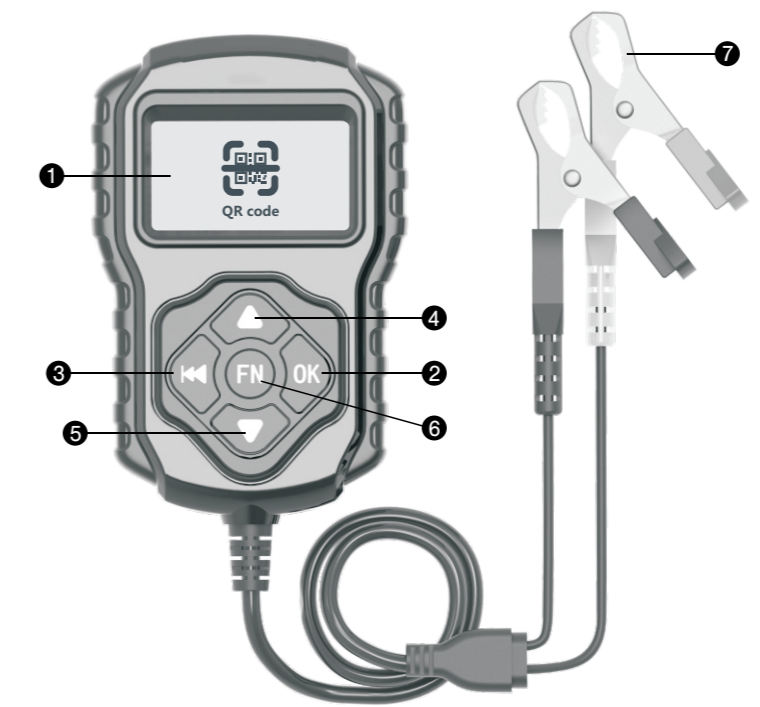
Measure Standard	Description	Measure Range
CCA	Cold Cranking Amps	100-2000
BCI	Battery Council International Standard	100-2000
CA	Cranking Amps Standard	100-2000
MCA	Marine Cranking Amps Standard	100-2000
JIS	Japan Industrial Standard	26A17-245H52
DIN	German Auto Industry Committee Standard	100-1400
IEC	Internal Electro Technical Commission Standard	100-1400
EN	European Automobile Industry Association Standard	100-2000
SAE	Society of Automotive Engineers Standard	100-2000
GB	China National Standard	30-220Ah

2.4 TECHNICAL SPECIFICATIONS

- Input Voltage Range: 8V ~ 30V
- Tester Working Temperature: -10°C to 60°C (14°F to 140°F)
- Storage Temperature: -20°C to 70°C (-4°F to 158°F)
- Dimensions: (L)158 x (W)102 x (H)30 mm

2.5 PRODUCT INFORMATION

- LCD display
- Enter button
- Back button
- Up button
- Down button
- Fn button — Quick test or voltage test function can be set.
- Alligator clamps (red & black) — Connect the red clamp to the positive pole and the black clamp to the negative pole.



3. BATTERY TESTER SETUP

3.1 TESTER SETUP

The tool allows you to make the following adjustments and settings.

Language: Choose a language.

Fn Setup: Set the One-Click-Key function.

Contrast adjustment: Adjusts the contrast of the LCD display.

Tool Information: Show the software and hardware version.

System setup

- From main menu, select the System Setup, and press Enter.

Language

- From System Setup menu, use Enter button to select Language.
- Use UP and DOWN button to select the desired language and press Enter button to save your selection and return to previous menu.

Fn Setup

- From System Setup menu, use Enter button to select.
- Use UP and DOWN button to select the desired one-click quick function. Voltmeter selection is to show the real time voltage. Quick Test Mode is suitable for using the same parameters batteries test. That means, after inputting the battery parameters during first test, the user can then press the Fn button to quickly access the same test procedure using the same parameters, as long as the Quick Test Mode is selected.

Contrast

- From System Setup menu, use Enter button to select contrast.

- Use UP and DOWN button to select the contrast value and press Enter button to save your selection setting and return to previous menu.

Tool Information

- From System Setup menu, use Enter button to select Tool Information.

- Press Back button to return the previous menu.

OPERATION AND TEST

- After connecting the tool to vehicle battery, the tester displays the real-time voltage.

- Press the Enter button, the tester will display the following contents in a sequence, select accordingly.

System Setup

1. Language

2. Fn Setup

3. Contrast

4. Tool Information

Contrast

09

System Setup

1. Language

2. Fn Setup

3. Contrast

4. Tool Information

Tool Information

Software Version: 1.04
Hardware Version: 1.01

Voltage

12.40V

➔ **CCA:** Cold Cranking Amps, specified by SAE&BCI, most frequently used value for starting battery at 0°F (-18°C).

BCI: Battery Council International Standard.

CA: Cranking Amps Standard, effective starting current value at 0°C.

MCA: Marine Cranking Amps Standard, effective starting current value at 0°C.

JIS: Japan Industrial Standard, displayed on the battery as combination of the numbers and letters, e.g. 55D23,80D26.

DIN: German Auto Industry Committee Standard.

IEC: Internal Electro Technical Commission Standard.

EN: European Automobile Industry Association Standard.

SAE: Society of Automotive Engineers Standard.

GB: China National Standard.

Rating range as following

Measure Standard	Measure Range
CCA	100-2000
BCI	100-2000
CA	100-2000
MCA	100-2000
JIS	26A17~245H52
DIN	100-1400
IEC	100-1400
EN	100-2000
SAE	100-2000
GB	30-220Ah

Input correct test standard and rating, press Enter button, tester starts to test, and dynamic interface "TESTING" prompted.

Note: It takes around 5 seconds to display the battery test result.

4.2 BATTERY TEST RESULT

Battery test result includes 5 types as following.

(1) GOOD BATTERY

- The battery is without any problem.

Health: 96% 490A
Charge: 97% 12.64V
Internal R=6.1mΩ
Rated:500A CCA
GOOD BATTERY

(2) GOOD, RECHARGE

- Good battery but low power, recharge before using.

Health: 78% 440A
Charge: 31% 12.20V
Internal R=7.2mΩ
Rated:500A
GOOD, RECHARGE

(3) REPLACE

- The battery is near to or already reached the end of the using life, replace battery.

Health: 8% 144A
Charge: 99% 12.68V
Internal R=30.1mΩ
Rated:500A CCA
REPLACE

(4) CHARGE-RETEST

- Unstable battery recharge and retest. If same test result appears after recharge and retest, the battery is regarded as damaged, replace the battery.

Health: 39% 310A
Charge: 12% 12.08V
Internal R=30.1mΩ
Rated:500A CCA
CHARGE-RETEST

(5) BAD CELL

- Internal damage, replace battery.

Health: 10% 165A
Charge: 0% 9.97V
Internal R=17.83mΩ
Rated: 500A CCA
BAD CELL

4.3 CRANKING TEST

Tester prompts as following

Main Menu

1. Battery Test

2. Cranking Test

3. Charging Test

4. Review Data

5. System Setup

Cranking Test

1. 12V

2. 24V

Cranking Test

START ENGINE

Cranking Test

RPM Detected

Cranking Test

Time 780ms

Voltage 10.13V

Normal

- Choose to test 12V/24V cranking system.

- Start the engine when prompted, the tester will automatically complete the cranking test and display the result.

- When the RPM is detected this will display on the screen.
- Normally a cranking voltage value lower than 9.6V is regarded as abnormal.

- The test result of the tester will include actual cranking voltage and actual cranking time.
- This is for the convenience of the maintenance personnel to quickly know the whole state of the cranking system according to the data.

After the test is finished, do not shut down the engine, the next step is the charging test.

4.4 CHARGING TEST

Tester prompts as following

- Select "Charging Test" and press Enter button to start the charging test.

Note: Do not shut down the engine during the test. Follow the steps according to the on screen instructions.

- Choose to test 12V/24V charging system.

- After the test has finished, the tester displays the loaded and unloaded charging voltages, ripple voltage and charging test result.

Note: "NO OUTPUT" means Charging system is no output. The vehicle will stop working when the battery is exhausted. Please check the alternator or contact the maintenance service center immediately.

Main Menu

1. Battery Test

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Charging Test

1. 12V

2. 24V

Ripple Test

Turn off headlights and air conditioner, keep 10 seconds.

Press ENTER continue

Unloaded Test

Turn off all devices, increase RPM to 2500-3000r/min and keep 10 seconds

Press ENTER continue

loaded Test

Turn on headlights and air conditioner to the maximum, keep RPM idle for 10 seconds

Press ENTER continue

Charging Test

Unloaded 14.39V

Loaded 14.16V

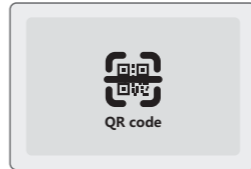
Ripple 15mV

Normal

4.5 REVIEW DATA

- Choose the function of Review Data to review last time test results.

- Obtain the test report by scanning the QR code.



Main Menu

1. Battery Test

2. Cranking Test

3. Charging Test

4. Review Data

5. System Setup

Health: 96% 490A

Charge: 97% 12.64V

Internal R=6.1mΩ

Rated:500A CCA

GOOD BATTERY

Show result on the phone

TEST REPORT

BATTERY TEST

REGULAR FLOODED BATTERY

VOLTAGE: 12.71V

SELECT INPUT: CCA

RATED: 500A

MEASURED: 538A

INTERNAL R: 6.44mΩ

GOOD BATTERY

STATE OF HEALTH: 96%

STATE OF CHARGE: 100%

CRANKING TEST

CHARGING: NORMAL

VOLTAGE: 10.00V

TIME: 800ms

CHARGING TEST

CHARGING: LOW

LOADED: 13.21V

UNLOADED: 13.88V

RIFFLE: 1mV

Battery Tester

